

Amendments to the Specification

At page 1, after the Title, please insert the following new paragraph:

This application is a divisional of U.S. Patent Application Serial No. 10/132,561, filed April 24, 2002, which is a continuation of U.S. Patent Application Serial No. 09/530,061, now U.S. Patent No. 6,410,278, which is a national stage application of PCT/JP99/06213 filed November 8, 1999, claiming priority benefit of Japanese Patent Application Serial No. 10-317,476 filed November 9, 1998.

At page 40, line 9 through page 42, line 8, please replace the existing paragraphs with the following revised paragraphs:

At the 3'-side of the single-stranded nucleic acid thus displaced, there is a sequence F1 complementary to F1c in the same chain. F1 rapidly anneals to F1c in the same molecule to initiate synthesis of a complementary chain. When the 3'-terminal (F1) anneals to F1c in the same chain, a loop containing F2c (i.e., a first loop) is formed. (As illustrated in Fig. 2-(7), the same single-stranded nucleic acid also contains at the 5'-side a sequence R1 complementary to R1c in the same chain, which can likewise anneal to form a loop containing R2, i.e., a second loop.) As is also evident from Fig. 2-(7), the part of this loop containing F2c remains ready for base pairing. The oligonucleotide FA of the invention having a nucleotide sequence complementary to F2c anneals to the part of this loop (i.e., the first loop) and acts as the origin of synthesis of a complementary chain (7). Synthesis of a complementary chain from the loop proceeds while the reaction product in the previously initiated complementary chain synthesis from F1 is displaced. As a result, the complementary chain synthesized with itself as the template is made ready for base pairing again at the 3'-terminal. This 3'-terminal is provided with a region R1 capable of annealing to R1c in the same chain, and the two are annealed preferentially due to the rapid intramolecular reaction (i.e., forming a third loop). The same reaction as the above-described reaction starting from the 3'-terminal synthesized with FA as a template proceeds in this region as well. As a result, the nucleic acid having complementary nucleotide sequences linked alternately in the same single-stranded chain according to the present invention is continued to be extended from R1 as the starting point at the 3'-terminal by successive synthesis of a complementary chain and subsequent displacement thereof. Because R2c is always contained in the loop formed by intramolecular annealing of the 3'-terminal R1, the

oligonucleotide (RA) provided with R2 anneals to the loop at the 3'-terminal in the subsequent reaction.

When attention is paid to nucleic acid synthesized as complementary chain from the oligonucleotide annealing to the loop in the single-stranded nucleic acid elongated with itself as the template, synthesis of the nucleic acid having complementary nucleotide sequences linked alternately in the same single-stranded chain according to the present invention also proceeds here. That is, synthesis of a complementary chain from the loop (i.e., the first loop) is completed when it reached RA in e.g. Fig. 2-(7). Then, when the nucleic acid displaced by this nucleic acid synthesis (i.e., forming the third loop) initiates synthesis of complementary chain (Fig. 3-(8)), the reaction reaches the loop which was once the origin of synthesis (i.e., the first loop), and displacement is initiated again. In this manner, the nucleic acid initiated to be synthesized from the loop is also displaced, and as a result, the 3'-terminal R1 capable of annealing in the same chain is obtained (Fig. 3-(10)). This 3'-terminal R1 anneals to R1c in the same chain to initiate synthesis of complementary chain. This reaction is the same as in Fig. 2-(7) except that F is used in place of R. Accordingly, the structure shown in Fig. 3-(10) can function as a new nucleic acid which continues self-elongation and new nucleic acid formation.